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Beware of airline ticket and travel scams

By RDECOM G-2, Antiterrorism, Law Enforcement and Physical Security Office

The internet has opened a virtual worldwide market place for bargain hunters – but it has also brought new opportunities for con artists. Bogus websites offering nonexistent discounts on airline tickets and travel have emerged over the last few months. Unfortunately, ticket buyers aren't always aware of just who they are dealing with, or how reputable they are.

How do they work? Once you log onto their site, you are required to fill out a form, this allows them to capture your credit card information, including the account number, expiration date and the CVV (anti-fraud security feature on credit cards). Once you hit the payment key, the site will then display an error message stating that the credit card transaction has been declined or that your credit card could not be processed when the form was submitted.

You are then given instructions on how to pay for the tickets by submitting payment via Western Union, or by mailing your check/money order to a post office box. This should raise a red flag immediately – by submitting funds in this manner, you have provided them with your credit card information and payment in a form that is not easily recoverable – you've just been ripped-off twice.

Here are some tips on how to avoid ticket scammers.

First and foremost – Be skeptical, and read or listen to exactly what is being said, not what you want to hear.

Be aware of what "subject to availability" means: There's a chance you may not be able to get the travel dates you want.

Know who you're dealing with. If you're not familiar with the company, get their name, address and local telephone number. You can also check up on their track record by contacting the Attorney General, Consumer Protection Agency or the Better Business Bureau to see if complaints have been filed against them.

Be wary of giving your credit card information over the phone or online, unless you are 100 per cent certain you are dealing with a reputable company and a secure server.

Read the fine print.

Be wary of solicitors who call after business hours. Legitimate businesses normally operate during regular daytime business hours.

Deals that require you to pay before you receive the necessary information, or ask you to pay for the information.

Ask what is not covered.

Is the carrier simply identified as a major airline

Are you pressured to make an immediate decision?

Be extremely skeptical about postcard and phone solicitations which say you've been selected to receive a "fabulous" vacation.

Walk away from high pressure sales presentations which don't allow you time to evaluate the offer, or which require that you disclose your income.

Verify that your ticket or travel agent belongs to a valid trade/broker association.

Don’t assume that just because a company places advertisements in a newspaper, or has a toll-free 800 number, it must be safe – always verify.

Remember only you can protect your personal information and minimize the risk of identity theft.

Command and Control Directorate Survey

By Daphne Hart
Communications-Electronic Research Development Center Public Affairs Office

Happy employees are more productive employees. But how does management know how happy and productive their employees actually are?

Dr. Gerry Melendez, director, Communications - Electronics Research, Development and Engineering Center's Command and Control Directorate has called in experts to find out.

The Great Place to Work Institute, which compiles Fortune Magazine's annual list of the100 Best Companies to Work For, administered an anonymous survey to every C2D employee in May.

"I am totally committed to make C2D a better organization, an organization which benefits from the strength of its entire workforce," Melendez said. "To accomplish this, we first need to understand the present state of the directorate, to include the human element. This survey will help us understand the trends of how the workforce feels and help us identify areas we can improve to make C2D a more productive organization with a workforce that trusts the organization and takes pride in the organization and their job."

The survey will identify areas that potentially need improvement, as well as those that are doing well, throughout the directorate down to the branch level.

"The collected data will be used to help us understand the organizational trends and patterns at a specific point in time, not to pinpoint issues of concern to one or two employees," Melendez added.

Marv Baron, C2D's project coordinator, stressed that the survey is being conducted as a tool to improve overall morale and performance and will not be used to blame any individual employees or managers.

"No person within any branch will be singled out. We're not here to punish anybody," Baron said. "We're here to do a better job on the management level and on the employee level."

To ensure that responses are received from as many people as possible, employees will take the survey in person in groups of 20 to 30.

Though some may wonder if the mandatory appearance was necessary, Baron believes that it was.

"I don't want 20 percent of the population to determine what morale is for 100 percent," Baron said.

Melendez concurs.

"I expect 100 percent participation from the C2D workforce," he said.

The survey will be conducted anonymously; though C2D leadership will know if an employee has taken the survey, they will never know what that employee said.

"We have taken steps to insure the anonymity of those responding and to look at the data only in the aggregate," Melendez said.

After each group was done with the survey, it will be placed into a sealed envelope. That sealed envelope was then placed into a larger envelope which will then be sent to the Great Place to Work Institute.

“It will be 100 percent confidential,” Baron said. “There is no way anyone can know who wrote what about whom.”

Jane Weiss, a senior consultant with the Great Place to Work Institute, reiterated the secrecy of the results.

“The way that the survey is distributed and the results are tabulated ensures that the strictest anonymity is provided,” she said. “The surveys go right back to us and no one in your organization (the CERDEC) will see them.”

Employees will answer each question twice; once in terms of their branch and the other in terms of the directorate as a whole.

But those in smaller branches should not be concerned about their bosses or co-workers figuring out what was written.

“We only report results from groups large enough to maintain anonymity,” Weiss said.

Though there was a section to write additional comments, the institute will type up responses before showing them to C2D management.

“No one at Fort Monmouth will ever see the original, handwritten responses,” Baron added.

After the survey is given and the results are in, they will be presented to C2D management along with possible suggestions as to how to improve. The results will also be passed on to all directorate personnel.

After the survey is given and the results are in, they will be presented to C2D management along with possible suggestions as to how to improve. The results will also be passed on to all directorate personnel.

“The results will be made known to each and every employee,” Baron said. “That is the key.”

Melendez has a few things that he wanted employees to remember when taking the survey.

“I wanted each employee to look at their role in the organization and answer the questions truthfully,” Melendez said. “I would also like to get a view into the organization at this point in time. So, to the extent possible, I would like for the answers to reflect today’s environment.”

Baron also had a few pointers.

“Be vocal. Be honest. Take your time. And remember that this is not just another survey.”

CERDEC junior engineers, scientists learn about future technologies

By Herald Belfour and Yuriy Posherstnik
CERDEC

Communications – Electronics Research, Development and Engineering Center junior engineers and scientists visited Fort Campbell, Ky. February to observe and participate in the fielding of the Joint Network Node.

Through close coordination between the CERDEC's Human Resources Office and the Office of the Program Manager Tactical Radio Communication Systems (TRCS), the engineers were introduced to the new Army concept of modularity and transformational network.

The current structure of the Army requires a large force that is difficult to mobilize and deploy, which can lead to an inefficient response to global threats.

As part of the Army's transformation to a lighter, rapidly deployable force, the present infrastructure will be reorganized into modular units.

The JNN, a highly transportable and mobile communications system that provides voice and data connectivity through commercial satellites, transitions into the reorganization and meets the need of the transformational warfighter.

"CERDEC's Human Resource Office sponsors a program that looks for opportunities to have engineers interfacing with their customer; the Soldier," said Dwayne Davis of CERDEC's Human Resources Office and the organizer of the trip. "Because the JNN derived from our Space and Terrestrial Communication Directorate's Brigade Subscriber Node, we felt this was an ideal training experience."

The week-long orientation consisted of a site walk-through, meetings team leadership, and hands-on experience with the fielding team.

The orientation of the JNN process included a tour of the site, an inside look into the brigade combat team's battle command post.

Junior engineers and scientists who attended the fielding said the opportunity to interact with the Soldiers of the 101st Airborne Assault Division who revealed their responsibilities to the transformational network, was important.

"The close contact with the Soldiers, that is otherwise not available, taught us the duties and challenges of the soldier and their viewpoint on the systems that are developed for them," said Nhut Vo, an electrical engineer with the CERDEC's Command and Control Directorate.

Junior engineers and scientists toured the CERDEC-developed Joint Network Node at Fort Campbell, Ky. and spoke with Soldiers from the 101st Airborne Assault Division.

Before traveling to Fort Campbell, the junior engineer and scientists visited S&TCD's Communications System Integration laboratory to witness integration of the JNN into the Joint Network Tactical Communication system.

"The exposure to the JNN fielding process was an invaluable opportunity to develop ourselves as interns and future Army civilian leaders," said Darlene Worsely, an electrical engineer at the Intelligence and Information Warfare Directorate.

"This trip has proven to be beneficial to intern growth, exposing the interns to the end-users of the systems which is vital for successful development of systems," Davis said. "Similar trips will provide a gateway allowing interns to develop and broaden their knowledge base."

ECBC deploys staff to provide packaging support

By Kristy Durst
Edgewood Chemical Biological Center

Military cargo must be able to withstand extremes of temperature, weather and impact. Appropriate packaging is critical to the successful transport of military equipment.

Transport of damaged equipment, known as retrograde operations, requires the shipment of damaged but fixable items for repair, refurbishment and, eventually, return-to-service. Before it can be repaired, however, equipment must travel halfway around the world to get home. During recent months, high rates of equipment returning from the Middle East have been damaged in transport to the point of being un-repairable.

The Edgewood Chemical Biological Center deployed two staff members to Kuwait, to assist with improvements to the retrograde packaging process. The members trained military personnel and provided guidance to contractors working in retrograde operations. The instruction covered preservation, packaging and marking requirements for items being shipped back to the United States for repair. They also demonstrated proper crate fabrication, in accordance with military standards.

To ensure that the retrograde operations personnel are able to prepare items properly on their own, ECBC reviewed packaging equipment, procedures, concepts and methods currently being used. In addition to providing guidance for challenges unique to this particular situation, ECBC's assistance included advice to contractors on how to maintain appropriate standards for cleaning, drying and packaging in general. Before departing, the ECBC team ensured that the box shop they visited has the equipment necessary to continue exercising appropriate packaging procedures in the future.

(Kristie Durst is a Booz Allen communications specialist working in support of Edgewood Chemical Biological Center. She has five years experience developing communications strategies and products for federal clients engaged in chemical and biological defense activities.)

Equipment packed in special containers for shipment to the United States. (U.S. Army photo)

Damaged equipment in Kuwait to be packaged and shipped to the United States for repair. (U.S. Army photo)

Medal of Honor given place of honor at Simulation, Training and Technology Center

Story and Photos by Julie Cupernall
RDECOM Public Communications

ORLANDO, Fla. – After months of high profile attention, Medal of Honor recipient Sgt. 1st Class Paul Ray Smith's family quietly placed the rare and precious award in a place where it will watch over future Warfighter technologies.

During a March 13 ceremony, under the watchful eye of Smith's family, dignitaries, his fellow Soldiers and members of the 3rd U.S. Infantry Division (The Old Guard), the Medal of Honor was placed in a shadow box in the facility that proudly bears Smith's name.

Florida Governor Jeb Bush, University of Central Florida President John C. Hitt and Brig. Gen. Stephen Seay, commander, Program Executive Officer Simulation, Training and Instrumentation were all in attendance.

"As we take time to recognize Sgt. 1st Class Smith we can take comfort in knowing he'd be proud. The legacy of this brave American will forever live on in this center" Bush said.

"I can feel his presence here. I can feel Paul's dedication to training and preparation for Soldiers. I know that Paul is looking down on this ceremony with all the other fallen Soldiers" said Lisa DeVane, Smith's sister.

An image of Sgt. 1st Class Paul Ray Smith hangs outside the U.S. Army Research, Development and Engineering Command's Simulation, Training and Technology Center facility named in his honor.

On April 4, 2003 Smith and one hundred fellow 3rd Infantry Division Soldiers were constructing a prisoner holding area in Baghdad International Airport. Without warning, the task force was attacked and quickly outnumbered. Smith organized a hasty defense. After seeing to the evacuation of three wounded Soldiers, Smith dodged heavy enemy fire to man a .50 caliber machine gun mounted on a damaged armored personnel carrier. After wounding or killing numbers of enemy soldiers, Smith himself was gunned down.

The Medal of Honor is the United State's highest medal for valor in combat. Since the medal's Civil War inception, only 3,459 have been awarded.

Smith's family accepted the Medal of Honor during a ceremony held at the White House April 4, two years to the day after Smith died.

His Medal of Honor citation reads: "In total disregard for his own life, he maintained his exposed position in order to engage the attacking enemy force. During this action, he was mortally wounded. His courageous actions helped defeat the enemy attack, and resulted in as many as 50 enemy Soldiers killed, while allowing the safe withdrawal of numerous wounded Soldiers."

Smith's Medal of Honor will serve as inspiration to those creating technology to train and protect the Warfighter.

In honor of all of Florida's fallen sons and daughters in combat, STTC dedicated its facility the Sergeant First Class Paul Ray Smith Simulation, Training and Technology Center in November 2003.

The mission of STTC is to enhance Warfighter readiness, and to research and develop simulation technologies for learning, training, testing and mission rehearsal. The goal of STTC is to accomplish its mission in the fastest possible time.

STTC is part of the Research, Development and Engineering Command. RDECOM, headquartered at Aberdeen Proving Ground, Md., is a major subordinate command of the Army Materiel Command. With research, development and engineering labs located worldwide, its driving mission is getting technology to the Warfighter quicker.

According to Smith's sister, it's a mission Paul Ray would have loved being associated with.

"It deals with cutting edge technology, and Paul was a cutting edge sort of guy" DeVane said with tears of pride shining in her eyes.

The Medal of Honor and citation hang in a shadow box, for all to view and be inspired.

Navigation aid guides free fallers

Natick Soldier Center Public Affairs Office

Heavy fog, cloud cover, and even rain or blowing snow are all the better for Special Operation Forces parachuting from high in the sky toward their intended infiltration point aided by a navigation system.

Three prototype Military Free Fall navigation systems are being evaluated by the Natick Soldier Center's Airdrop Technology Team at the U.S. Army Soldier Systems Center here, to safely, accurately and covertly insert forces into unfriendly places.

Like pilots relying on their instruments to guide their aircraft when visual cues are unavailable, Special Operations warfighters can rely on the navigation system on MFF missions.

Jumping from altitudes of 25,000 feet or higher, they can steer their Ram Air parachutes to pre-selected impact points even after exiting the aircraft from miles away in miserable weather. This infiltration technique is called High Altitude High Opening.

"The best conditions are the worst conditions," said Daniel Shedd, project officer for the MFF Navigation System. "Ideally, you don't want to see the ground until just prior to landing, because (the enemy) can see you."

While precision airdrop programs at the Airdrop/Aerial Delivery Directorate at Natick are working on ways to accurately deliver cargo to a planned drop zone, the MFF navigation system guides warfighters flying under canopy. In both cases, the intent is to minimize exposure of Air Force aircraft and their crews to enemy threats.

"We just want to get them close. Once they are on final approach within a kilometer, they should be able to identify their target," Shedd said. "The Global Positioning System is accurate to within about 10 meters, but unfortunately the altitude is not yet accurate enough considering the timing necessary of the canopy flair maneuver, which slows the forward speed and vertical descent rate for a soft and safe landing."

Primitive attempts

He said HAHO operations are not commonly considered because commanders don't have enough confidence to risk failure of the larger mission and possible loss of life.

Bad winds, missed release points, inaccurate release altitudes and human directional errors frequently result in missed targets. Adequate training is another concern because of airspace restrictions, aircraft limitations and logistics involved in operating in such a hazardous environment.

These infiltrations, when successfully performed, are ideal for small units requiring the highest level of security, he said.

When coupled with precision bundle capabilities and future improved personnel parachute systems, large amounts of equipment and vehicles will be able to be inserted with the unit, greatly increasing its mission capabilities.

"When the opportunity arises to train for this type of infiltration technique, the jumpers need the best tools available to ensure success and demonstrate the viability of the mission," Shedd said.

The user-community has long sought this type of capability but has had no choice but to purchase their own handheld GPS units and attempt to mount them in places where they could be useful.

GPS-based airborne guidance units mounted on the chest or wrist were primitive attempts to navigate from under canopy, said Shedd, but the problem is that they are too difficult to view while wearing all the necessary equipment for high-altitude jumps, such as oxygen masks.

Started two years ago and funded by Special Operations Command's Special Operations Special Technology, Shedd said the project has gained significant momentum, in addition to the participation of all of the Special Operations services.

Systems now in development consist of a Gentex high-altitude parachutist helmet with a heads-up display, a processor unit and GPS. A laptop-based or Personal Digital Assistant mission planner along with a map overlay, alternative target designation features and predicted release cones based on wind estimates entered into the computer before the jump are all options being evaluated.

The Marine Corps, engineers from the Navy's Coastal Systems Station in Panama City, Fla., and the NSC have produced a prototype scheduled for fielding in 2006.

It will give Marine Corps Special Operators the first MFF navigation aid to work with until an upgraded system is available, according to Shedd.

"These guys are really excited. I have no shortage of people who want to know more and eventually try it," Shedd said, who has tested the systems as an airborne-qualified civilian employee. "Experience has shown that jumpers need a couple of jumps just to get used to it, but once they do, they all become believers."

From altitudes as high as 35,000 feet, the system must function at minus 35 degrees F and for as long as a 20-mile offset in calm winds with MC-4 or MC-5 parachute systems. Offsets of 3-1, which is a ratio of 3 feet of forward motion for every 1 foot of descent, will increase to 5-1 or 6-1 with a future canopy, and help to provide extra protection to aircraft, according to Shedd.

Multi-mission capable

Future real-time wind information will be delivered to the mission planning computer by the Joint Precision Aerial Delivery System (JPADS) for cargo delivery, a current Advanced Concept Technology Demonstration program also being managed by NSC. This will further enhance mission accuracy since inaccurate winds are the most significant contributor to missed targets, Shedd said.

The Marine Corps system integrates a GPS wired to a tiny TV-like display mounted to one side of the goggle. Shedd said the system is assembled with commercial components, and the technology is relatively mature, but there is limited follow-on capability, the display is obtrusive and the helmet is of little use on the ground.

Another prototype, developed by European Aeronautic Defence and Space Co. for German Special Forces, uses a handheld GPS with airborne guidance wired to the helmet display.

A display driver and antenna integrated into the helmet are fine, but the liquid crystal display begins to fail at high altitudes due to the low temperatures, and the cables restrict movement and are sensitive to damage, according to Shedd.

On the upside, he said the mission planning software is "fantastic." It knows how to fly the mission and determine the approach, making 3-D adjustments from the sky. Also, its GPS can be used on the ground.

Shedd said the next-generation prototype should be ready within the next six months.

The eventual goal is to carry a PDA containing mission-planning software and an encrypted GPS in the rucksack that wirelessly communicates to a heads-up display.

The display is expected to be unaffected by low temperature, legible in bright light and attached to a ballistic helmet instead of a parachutist helmet.

It is hoped that the navigation aid will become the base for an electronics package that will be considered multi-mission capable, which streamlines many computer-based capabilities now expected of Special Operations, such as calling in close air support, and enabling many communications functions, according to Shedd.

“The system must be reliable and easy to use, and programming should not overly burden planning of the long-term mission,” he said. “We have to keep in mind that HAHO jumps are just a way of getting Special Operations Forces to the job.”

TATRC/TARDEC Collaborative Robots Program Exhibited at Army Science Conference

By Bob Watts and Donna Leung

The OUSD Joint Programs Office, the US Army Medical Research and Materiel Command Telemedicine and Advanced Technology Research Center and the US Army Tank Automotive Research Development and Engineering Center have joined to develop a collaborative, multi-mission, robotic program.

Using an Army SBIR program, TATRC selected Applied Perception, Inc. to receive a phase II robotic patient rescue development contract. The core effort involves building a prototype robotic patient rescue system, which includes a marsupial robotic vehicle pair incorporating teleoperation, semi-autonomous and autonomous control capabilities. TATRC's program goals include demonstrating the feasibility of possible medical applications for the Army Future Combat System Small Unmanned Ground Vehicle and the Future Combat System MULE robots.

TARDEC has expanded this program to use a pair of robots acting as a collaborative team. The robots, now designed to accomplish multiple missions, share sensory information, teleoperator control station communications, and path/sensory analysis guidance. The robots' second mission capabilities strive to demonstrate collaborative maneuvers for scout/reconnaissance, advanced tactical behaviors and improved robot survivability.

As shown at last year'sArmy Science Conference, the collaborative robotic system comprises two marsupial robots and two user interfaces, a small, handheld Medic Interface Unit for use in the field, and a larger, laptop size, Operator Control Unit for remote use at the base. The two robots consist of a larger Robotic Evacuation Vehicle for long-range patient evacuation and a smaller Robotic Extraction Vehicle for short-range patient extraction (from site of injury to first responder medic). Both vehicles communicate via wireless radios to each other, the MIU, and the OCU.

The REV is a large, fast vehicle equipped with two, Life Support for Trauma and Transport litters. Designed for long-range transport of two wounded patients, the REV provides ballistic protection from small arms fire to both the medic and the wounded soldiers. The REV also transports the REX to and from the battlefield.

The REX, a small, agile vehicle intended for short range in-the-field patient detection and retrieval, possesses a manipulator with a gripper that has enough strength to grasp and place a wounded patient on a standard NATO stretcher. The REX can haul the wheeled stretcher behind it for short range patient transport. The medic can teleoperate both vehicles either on-site or remotely from the base.

TARDEC trailer modernization support

By Branden Drake

As participants on the Trailer Integrated Concept Team, TARDEC's Advanced Concepts Team and the National Automotive Center are currently supporting the Product Manager for Trailers in its efforts to meet trailer requirements in the near term as well as through the future Unit of Action Objective Force.

More than 41,000 trailers in the current trailer fleet have already exceeded their economic useful life. Among the fleet, there are a minimum of 185 different trailer models and 65,000 National Stock Numbers to manage, making trailers very costly to maintain. Therefore, it is necessary to develop and implement a strategy that will both address problems within the current fleet and serve as a path forward for trailer modernization efforts.

The trailer fleet modernization transition effort is called Family of Army Scalable Trailers. FAST program goals include minimizing number of trailer variants, minimizing Operational and Support costs, reducing the logistic footprint, maximizing commonality and meeting future force requirements.

To help achieve these goals, a modular approach is being investigated which will explore solutions with parts commonality, no special tools requirement, two-level maintenance, easier technology insertions and quick reconfiguration to meet evolving mission requirements.

In support of FAST, TARDEC is currently working with PM Trailers and the trailer community to understand desired trailer capabilities. Information is being acquired from the community through web-based surveys, collaborative brainstorming within ACT's facilities, requirements documents, and PM database information. This ongoing information gathering will identify challenges and help to determine potential improvements as well as provide input for a Quality Functional Deployment study.

QFD is a key component in the rapid idea generation process used by the ACT for identification, visualization and analysis of conceptual alternatives. The resulting alternatives are developed virtually using Computer Aided Design which are animated to show functionality. To date, two modular concept alternatives have been developed and animated. These virtual models were also used to create 1/20th scale plastic physical models using the NAC's Mobile Parts Hospital. Both the virtual and physical models were displayed at the October 2004, AUSA annual meeting in Washington, D.C.

Other TARDEC trailer efforts, supported by ACT include development of a 13 ton trailer concept, to meet the future companion trailer requirements of the Future Tactical Truck Systems-Maneuver Sustainment Vehicle and a NAC future semi-trailer demonstrator concept. All these efforts combine to illustrate TARDEC's commitment to help improve and modernize the Army's trailer fleet.

The Parts Doctor Is In

By Ashley John

A distressed Soldier entered the US Army Tank Automotive Research, Development and Engineering Center's Mobile Parts Hospital at a military camp in Kuwait, frantic for guidance in getting parts made to retrofit his HMMWV.

The Soldier was faced with a looming mission that was to take place at noon the next day. Having a design in mind, he approached the MPH team with a plan for a modified gun mount to attach a Squad Automatic Weapon to his vehicle. Getting precision parts and getting them quick was essential for the Soldier to complete his mission.

Concurrently, The MPH team was in the process of closing down operations for the day, when the Soldier came into the module. Realizing the importance and significance of the mission, the module stayed open late to meet the Soldier's need.

Racing against the clock, the MPH team successfully designed, manufactured and delivered the needed parts in a matter of five hours. The Soldier picked up and installed the parts early the next morning. While executing his mission the Soldier and his crew ran into an insurgent ambush, according to witnesses, the MPH gun mount enabled them to deter and repel enemy attacks safely, allowing for maximum firepower and a successfully completed mission.

It was at this point when the Mobile Parts Hospital crew had realized the direct impact that they have on helping the Soldier in need.

Since its October 2003 arrival in Kuwait, the Mobile Parts Hospital, has serviced hundreds of Soldiers, and has been working vigorously to meet identified maintenance needs. Prior to units moving into Iraq, MPH is there to rapidly service and repair parts when timing is of essence. Recently, to help tackle additional part requests, another MPH unit has been deployed to Iraq and in June 2005, MPH will have modules located in Afghanistan.

The remarkable success anecdotes from the first RMS module led to the request of a module in Iraq and Afghanistan.

Thousands of grateful Soldier testimonials have been sent to the MPH team, headquartered in Warren, Mich. Commenting on the team's speed and effectiveness of their work, 2nd Lt Bruce Neighbor with the 1486th Trans. Company in Iraq, spoke of the hospital as, "necessity in a theater of war." Neighbor, a frequent user of MPH, continues to spread the word on what a fabulous job the team is doing. "Simply put, the parts hospital has saved lives. I continue to bring more and more orders to the MPH, and they have fulfilled my every need."

Currently TARDEC is working with PM sets, kits, outfits, and tools, located at Rock Island Arsenal, on transitioning the MPH program. TARDEC has also partnered with a local Detroit non-profit training and manufacturing school, Focus: HOPE, to help train personnel and Soldiers from Ground Systems Industrial Enterprise to operate the Rapid Manufacturing System modules that will be stationed in Afghanistan.

A revolutionary idea by TARDEC engineers and supported by Focus: HOPE staff, MPH consists of three individual modules that can efficiently fabricate standard and customized parts for vehicles or systems with critical battlefield needs.

The first module, the RMS, is a C-130 transportable, mobile manufacturing center composed of two ISO containers, the Lathe Manufacturing Module (LMM) and the Rapid Manufacturing Module (RMM). Together these modules house the most modern design and manufacturing technology supplied to the Soldier.

C3, the Communications and Control Center, is the second component of MPH. This station is where all the memory is stored, acting like the brain of the system. C3 stores and sustains the Wind-chill database, which houses all of the technical data for part production, along with the technical expertise to maintain the MPH program through use of satellite communication—linking it to databases, maintainers and Soldiers anywhere in the world.

The Agile Manufacturing Cell is the final portion of the MPH module, which is currently located at Focus: HOPE. This is a fixed facility that includes a multiple manufacturing system, reverse engineering and finishing capabilities. This unit increases the manufacturing capacity of MPH by producing specific parts that the RMS unit cannot fabricate in country due to size, weight, or environmental restraints. This cell produces the larger production quantities of parts, therefore increasing to production readiness of the deployed LMMs. This virtual factory has real-time access to Continental United States-based military and industrial manufacturing capacity.

Nearly 13,000 parts have been produced since MPH's deployment into theater, of which the SAW vehicle mount was awarded one of the Top 10 Greatest Inventions of 2003, by the US Army Materiel Command.

Today, the MPH continues its Soldier support missions. According to a recent letter received from Kevin Green, an RMS Manufacturing technician based in Kuwait, "Sgt. McMillian from the 1st Infantry Artillery came into the RMS to speak about the adapter sleeves and mounts for their HMMWV gun truck that our team had made for them. On a recent mission, Sgt. McMillian and his comrades were able to survive an RPG attack on their convoy. He believed that these items were instrumental in saving American lives."

HMMWV's are not the only military vehicle systems that MPH has taken care of. MPH has also aided the M88 recovery vehicles, the M2 Bradley vehicles and the HEMTT vehicle systems and their components. Soldiers continue to display a high sense of demand for the parts included in the M249 SAW universal weapons mount and blue force tracker systems.

With deployments to Kuwait, Iraq and now Afghanistan, MPH has a direct impact on Operation Iraqi Freedom and the ongoing battle against the Global War of Terrorism. Point blank, the system is saving the lives of American Soldiers on a daily basis. As CPT Amy Ebitz, 2nd MP Battalion simply stated, "my company will be going forward now into danger better protected because of it." She is hearing no argument from TARDEC's MPH team who continue to manufacture thousands of parts to ensure Soldiers complete the mission.

(Author's Bio:
Ashley John is a Booz Allen Hamilton contractor working in support of the TARDEC Technology Promotions Team. She holds a Bachelor of Arts degree in Business Marketing from Michigan State University.)

Operation H2O

By Ashley John
TARDEC

It is essential that a Soldier receives one to three gallons of water per day to prevent dehydration. If you add personal hygiene, combat meal preparation and emergency medical treatment to the mix, a single Soldier may need up to 6.6 gallons of water per day. Without advancements in water sustainment technology, water distribution is anticipated to account for 30-40 percent of the Future Force daily sustainment requirement.

The U.S. Army Tank Automotive Research, Development and Engineering Center joined with the Defense Advanced Research Projects Agency, to develop two distinctive technologies that can generate and purify water anywhere on the battlefield. Both of these technologies will reduce the Army's logistical footprint which will ultimately reduce the frequency and quantity of water supplied to the Soldier.

The air that surrounds us on a daily basis contains a considerable amount of water, but Army conventional methods of collecting water from air are energy intensive and too large to be of productive use on the battlefield. TARDEC, in collaboration with DARPA, MesoSystems Technology Incorporated, Honeywell International Incorporated (Airframe Systems) and Hamilton Sundstrand Corporation are focusing resources into a water-generation system that can extract water from air. The Water Recovery Unit from Air system will have the capability to provide a source of stand-alone-water or the technologies sufficient enough to be integrated onto military vehicle systems.

Army announces greatest Army inventions for 2005

RDECOM Public Communications Office

The commanding general of the U.S. Army Materiel Command, the U.S. Army vice chief of staff and other senior Army science and technology leaders will recognize the U.S. Army's "Top Ten Greatest Inventions of 2005 " in an awards ceremony June 8 at the Hilton McLean Tyson's Corner.

The Army-wide awards program is dedicated to recognizing the best technology solutions for the Soldier.

“Nominations for the program were submitted from across the Army laboratory community,” said Gen. Benjamin. S. Griffin, commander, AMC.

The Army -- from active duty divisions to the Training and Doctrine Command to the Army's vice chief of staff -- chose the ten winning programs based upon their impact on Army capabilities (breath of use and magnitude of improvement over existing systems), inventiveness, and potential benefit outside the Army.

Like previous years, there are no differentiating categories so that a variety of inventions could be recognized.

Each of the 10 selected teams will receive an award; the other nominated team members will receive certificates of participation.

The U.S. Army Greatest Inventions Program selections are:

*Armor Survivability Kit for the HMMWV

U.S. Army Research Laboratory Weapons and Materials Research Directorate

In August 2003 as Operation Iraqi Freedom casualties were increasing, the Army Research Laboratory initiated an effort that rapidly investigated HMMWV protection options and then quickly down selected to a solution that could be fielded in an expedient manner. In late 2003, the ARL began producing prototype kits that were later installed in theatre. The effort was transitioned to the TARDEC, who further developed the solution so that it could be mass produced by the Army Depot System. As of December 2004, the Army has fielded more than 8000 kits.

* IED Countermeasure Equipment

U.S. Army Research Laboratory

The IED Countermeasure Equipment (ICE) is a radio-controlled IED countermeasure designed by Army Research Laboratory soldiers, Survivability Lethality Analysis Directorate and Physical Science Lab New Mexico State University engineers to defeat certain RCIEDs. The SLAD/PSL team designed and built the system in less than four months by leveraging existing corporate knowledge and capability. The ICE design is government-owned and is completely composed of commercial off the shelf technology. The Department of the Army IED Task Force identified ICE as a preventative solution to IED casualties and vetted the system through its confirmation process.

* Unattended Transient Acoustic MASINT

U.S. Army Research Laboratory

UTAMS is an acoustic localization system based on classic sound ranging principles with advanced and unique signal processing techniques that can detect and isolate transient events such as mortar or rocket firings, munitions impacts, and other explosive events. In its current configuration, each of the UTAMS' three to five acoustic sensor arrays independently processes the detected events based on statistics from the signal content against the background noise, computes line-of-bearing to the firing locations, and sends the line-of-bearing information to a central base station laptop computer via a RF radio link. The base station performs source localizations via correlation and triangulation techniques. Due to the short and accelerated schedule, only a crude transient classifier was implemented in UTAMS. ARL is currently developing a more robust classifier that further differentiates between mortar, rocket, RPG and small arm fire events.

* M107 Cal .50 Long Range Sniper Rifle

U.S. Army Armament Research Development Engineering Center Armaments Engineering and Technology Center

The M107 is a .50 caliber long range sniper rifle effective against light materiel & personnel targets. The M107 is used to attack various materiel targets such as parked aircraft; command, control, communications, computers, and intelligence sites, radar sites, ammunition, petroleum oil and lubricants and various other thin skinned materiel targets to include lightly armored vehicles. The M107 is used in a counter sniper role taking advantage of the longer stand off range and increased terminal effect when opposing snipers armed with smaller caliber weapons.

* Lightweight Handheld Mortar Ballistic Computer

U.S. Army Armament Research Development Engineering Center
Armaments Engineering and Technology Center

A team of ARDEC engineers, in support of Product Manager Mortar Systems, developed a Lightweight Handheld Mortar Ballistic Computer System for all mortar weapon systems. The LHMBC program includes both hardware and software development. The software was developed via an in-house ARDEC effort, and the hardware was acquired through PM Common Hardware and the GSA schedule. The Personal Digital Assistant hardware is produced by Talla-Tech Industries in Tallahassee, Fl.

* Upgraded Aviation Force Battle Command Brigade & Below / Blue Force Tracking [Upgraded Aviation FBCB2 / BFT]

U.S. Army Aviation and Missile Research, Development, and Engineering Center Aviation Applied Technology Directorate and the Engineering Directorate

AMRDEC's Upgraded Aviation FBCB2 / BFT is a paradigm-shattering communication and tracking system that provides global, real-time, situational awareness and command and control to/from air and ground platforms in a compact militarized package. Consisting of a Miltope Laptop Computer, satellite antenna and Global Positioning System receiver, BFT displays the air or ground platform's location on the computer's terrain-map display along with the respective location of other air and ground platforms. BFT can also be used to send and receive "email" text messages

* Lightweight Counter Mortar RADAR

U.S. Army Communications Electronic Research Development and Engineering Center
Intelligence and Information Warfare Directorate

LCMR was designed to automatically locate mortar weapons over 360 degrees and to be sufficiently lightweight to support insertion by Airborne troops. LCMR is specified to detect and track mortar rounds at ranges out to effective range of most mortar weapons and locate the firing weapon with a target location error sufficient to neutralize the shooter with either Combat Air Support or counterfire. The performance has been validated against thousands of rounds in live-fire testing. The entire system...including 6 BA5390 batteries...weighs approximately 120lbs and requires less than 300 watts of prime power. The 6 batteries will run the radar for ~3 hours. The radar can also be run off vehicle power and is shipped with an AC adapter to allow use of generator or commercial power (50/60Hz, 110/220V)

* Chitosan Hemostatic Dressing

US Army Institute of Surgical Research
US Army Medical Research and Materiel Command

The chitosan dressing was originally developed by investigators at the Oregon Medical Laser Center and at the US Army Institute of Surgical Research, using funding from the US Army. Chitosan is a biodegradable, nontoxic, complex carbohydrate derived from chitin, a naturally occurring substance. In an initial test of prototype laboratory-constructed dressings, this dressing significantly increased survival rates and reduced both blood loss and resuscitation fluid requirements following Grade V liver injuries in swine. The dressing is a freeze-dried chitosan-based dressing designed to optimize the mucoadhesive surface density and structural integrity of chitosan at the site of injury. This dressing is sold commercially as a 10 cm x 10 cm x ~2 mm thick square dressing with nonabsorbable backing, and is packaged in a vacuum sealed aluminum pouch.

* Electronic Information Carrier

U.S. Army Medical Research & Materiel Command
Telemedicine & Advanced Technology Research Center

The Wireless Electronic Information Carrier is a wireless data storage device the size of a dog-tag that is capable of storing up to 4GB of data. The real power of the WEIC is its ability to securely and wirelessly read & write data within a range of 10 meters of medical devices such as the Battlefield Medical Information System Telemedicine and the Composite HealthCare System II-T. It also has a universal physical interface which ensures its compatibility with any commercial/government of-the-shelf. The Patient Information Career on the other hand, is an earlier non-wireless version with storage capacities up to 1GB. Like the WEIC, it is a rugged, low power consumption, flash memory device that is hardware and operating system independent.

* Army Combat Uniform

Natick Soldier Center/PEO Soldier
U.S. Army Research Development and Engineering Command

Recent events demonstrated the increased dependence on ground troops to accomplish our military objectives. Combat uniforms that provide camouflage protection in multiple environments are necessary such as desert, woodland and urban. A new combat uniform was developed to increase performance capabilities through the application of new camouflage technologies, incorporation of functional fabric finishes, and design engineering for increased operational effectiveness. The development of the Army Combat Uniform with a Universal Camouflage pattern meets the US Army operational requirements. The Chief of Staff of the Army approved the ACU to replace the Battle Dress Uniform and the Desert Camouflage Uniform.

ARL Mentors Nurture Future Scientists and Engineers

By Stephany Jaramillo
U.S. Army Research Laboratory Public Affairs

Dr. Adrienne Raglin, an Army Research Laboratory Electronics Engineer in the Battlefield Communications Networks Branch of the Computation and Information Science Directorate, is one of a pool of 139 eCYBERMISSION ambassadors cheering for the 355 regional winners in the Army 2004-2005 eCYBERMISSION competition. For the past six months, ARL eCYBERMISSION ambassadors have given their time to visit schools, academic forums and educational events to explain and promote eCYBERMISSION and the awards and recognition participating students can win.

Dr. Adrienne Raglan, an Army Research Laboratory electronics engineer, at work in her lab. As an eCYBERMISSION ambassador, she visits schools, academic forums and educational events to explain and promote the program, the awards and the recognition students participating can win.
(U.S. Army Photo)

“I think it’s great that ARL continues to get kids of every age interested in science, math and technology. Involvement at an early age enables students to build their confidence not only to develop their minds but also build up their self esteem and self worth,” Raglin said. “Some of these youngsters may not go into engineering or computer science but the confidence they gain and the ability they acquire to handle problems should serve them well throughout the balance of their academic and professional careers,” she continued.

Raglin was in the initial eCYBERMISSION core group when the program started three years ago and has been involved ever since. It is primarily because of the mentors Raglin had along the way to earn her doctorate that she is in the field she is in today.

“I think it’s really important to see women and minorities out there exploring things that they might like to do in the years ahead. I think the more people, like myself, try to encourage young people and expose them to science, math and engineering is really important. I am more than happy to have the opportunity to help kids do that,” Raglin commented.

“It’s essential to introduce young people to different careers, different experiences. By volunteering my time, I feel that I am giving someone a glimpse of a career path I would never have known about myself without the advice of mentors, summer programs that were open to me as well as the encouragement of my family. When I participate in the eCYBERMISSION program, I feel important. What my mentors did for me – I now want to do for others. I hope the Army and ARL will continue to support these programs,” Raglin added.

Realizing the benefits are many, the Army is committed to stressing the fundamental importance of science, math and technology for our national security and to heighten our economic competitiveness around the world. The Army is determined to stop the noticeable decline in the interest of young people in technical and scientific fields. To ensure the United States remains second to none in science, math and technology, the Army continues to do everything possible to develop new enthusiastic and skilled scientists and engineers.

Since our national security will increasingly require the latest in science and technology skills, consider volunteering. Play a role in nurturing a new generation of skilled professionals who may someday work with you. To become an eCYBERMISSION volunteer, go to www.ecybermission.com.

ARL Sponsors Award-Winning High School Robotics Team

By Paul Schmitt
Army Research Laboratory Public Affairs Office

The "Area 53" team poses with their robot at the regional competition.

If the accomplishments of a group of Maryland high school students are any indication, the future of United States research and engineering is in good hands.

A team of students from Eleanor Roosevelt High School in Greenbelt, Md., recently had great success at the FIRST Robotics Competition, both at the regionals in Annapolis, Md., and at the more recent international competition in Atlanta's Georgia Dome. The team was sponsored in part by the Army Research Laboratory.

FIRST, or For Inspiration and Recognition of Science and Technology, is in its 13th year. The program poses a specific problem in robotics engineering for students to solve. The students are then provided with a set of standard parts, and compete in tournaments with the robots they construct. This year, the problem involved the stacking of tetrahedrons on goals. Approximately 1,000 teams competed nationwide.

Roosevelt High School's team, dubbed "Area 53," consisted of 34 students, 24 of whom traveled to the national competition, held April 21-23. After taking part in the winning alliance of three teams at the regional competition, the Eleanor Roosevelt FIRST team was able to win a few matches at the national competition.

The team moderator, Douglas Pruett, was thrilled with the students' accomplishments.

"You have to keep in mind, the playing field for the national competition was unbelievable compared to regionals," Pruett noted. "Compared to some of the amazing projects in Georgia, we were the equivalent of a very strong amateur team."

Overall, Pruett viewed the experience as a success.

"We competed in every match, had no mechanical failures, and we played every game," he noted.

Their success was the payoff for months of hard work. According to Pruett, since January, the students have been working on their award-winning robot every Tuesday and Thursday, as well as several Saturdays.

In addition, 14 adults accompanied the team, including two employees of the Army Research Laboratory.

One of those employees, Leonard Huskey, ARL's Associate for Corporate Programs, indicated that he was "proud to be a part of the FIRST robotics experience." Huskey added that the competition "provided the students with an invaluable opportunity to experience firsthand both challenges and the joys of overcoming those challenges."

Huskey also pointed out the long-term benefit of the competition. "Getting students like these engaged early is an important part of maintaining our nation's status as a leader in science and technology in the international arena," he noted.

But from a personal standpoint, Huskey had an even greater interest in the Eleanor Roosevelt High FIRST team: his son, Eugene Huskey, was an active participant. The younger Huskey, who is a senior at the school, took an active role in both the engineering and scouting aspects of the competition.

ARL Deputy Director Joseph Rocchio meets with a few members of the Eleanor Roosevelt High School "Area 53" team.

"Watching Gene develop his skills, work with others, and grow as a person was a very gratifying experience," Huskey said.

Richard Gopaul, who works for ARL's Computational and Information Sciences Directorate, also volunteered. Gopaul mentored and advised the students as they built their award-winning robot. He also traveled with the team to both the regional and national competitions. His dedication was partially inspired by a more personal interest in the project. Gopaul is a graduate of Eleanor Roosevelt High.

"It was a lot of fun, especially because these were bright kids, ready to listen and learn," Gopaul said. "Some of them had great design ideas."

Pruett emphasized the importance of ARL to the team's success. In addition to volunteers, the organization provided funds, and assisted in the construction of a database used to scout other teams. Next year, ARL will continue to support the Eleanor Roosevelt High School FIRST team.

Of course, Pruett reserved his highest praise for the students themselves.

"I can't say enough about how proud I am," Pruett said. "They stayed energetic and focused throughout this competition."

For more on the Eleanor Roosevelt High School FIRST team, visit their web site:http://eroosevelths.pgcps.org/~pruett/.

ARL-Yale-SNL sensor deployed at major airport

By Dave Davison
Army Research Laboratory Public Affairs Office

The Army Research Laboratory, Yale University and Sandia National Laboratory are working together to develop sensor technology that more accurately detects bio-aerosol agents and may strengthen the nation's defense against bioterrorism attack.

Heightened concern about bioterrorism defense after the anthrax attacks of 2001 led to the deployment of a variety of sensors to detect potential bio-aerosol agents. Among them are early warning sensors that must rapidly (less then a minute response time) indicate the presence of an agent release and trigger other, more capable devices, to identify the released agent's species. Most of these sensors use a technology called laser-induced fluorescence which uses lasers to scatter and "excite" biological molecules within particles in the air to fluoresce. This enables the sensors to detect bioaerosols by identifying them by their "spectral signatures." This technology, which Yale and ARL pioneered in the mid-1990s, offers the advantages of being fast and having high sensitivity. Unfortunately, the LIF spectral signatures of biological species are not unique, which lead to an unacceptable number of false alarms.

With funding from the Department of Homeland Security , Sandia researchers Tom Kulp and Scott Bisson are collaborating with Yale University's Yong-Le Pan and Richard Chang, and ARL's Ron Pinnick, Steve Hill, and John Bowersett to better understand the chemical and physical properties of ambient particulates that result in LIF sensor false alarms.

Researchers set up the ARL/Yale bio-aerosol particle collector field prototype for experimental test purposes.

Chang's work has been supported by the Army since the early 1980's, according to Pinnick, who works at ARL's Computational and Information Sciences Directorate at White Sands Missile Range, N.M.

"We had overlapping research interests during this period and eventually we started collaboration," which Pinnick describes as "strong and productive."

ARL and Yale developed the experimental techniques to actively sort bio-aerosols on a particle-by-particle basis, based on their fluorescence spectral signatures. Sandia then initiated contact about building a bio-aerosol sensor subsystem.

Currently, Pinnick said, a study is being conducted by deploying the Yale-ARL-eveloped instrument at a sensor testbed operated by Sandia in the air-handling system at a major metropolitan airport. The system is serving as both a fluorescence particle spectrometer and a selective aerosol collector.

Individual particles from the air are concentrated into an airstream within the device where their fluorescence spectrum is measured on-the-fly. The magnitudes of optical signals in the 32 spectral emission channels and the elastic scattering channel provide input to an algorithm that decides whether a particle should be retained for further analysis.

The sensor is currently generating useful information regarding the identity of background particulates in the airport environment. The collection of numerous (at this point several million) single particle fluorescence spectra allows analysis of the spectral shape of the emission and assessment of the utility of adding more emission channels to existing instruments. More importantly, analysis of the collected particles reveals information regarding their chemical composition that can be used to explore alternate means of suppressing false alarms. Finally, the particles can be used as samples to test alternate screening methods.

Pennick added that a similar bio-aerosol sensor system developed by Yale/ARL has been deployed at the Defense Advanced Research, Projects Agency Spectral Sensing of Bio-Aerosols tests at John Hopkins University Applied Physics Laboratory, and at the Naval Research Laboratory Blue Plains field test.

ARL and Yale have joint proposals pending with the Joint Services Technology Office and DARPA for funding to further develop the technology, Pinnick said.

FDA Presents ECBC with a Certificate of Appreciation

Through an interagency agreement signed in 2002, the Edgewood Chemical Biological Center developed two mobile laboratory systems for the Food and Drug Administration that will ultimately help protect U.S. consumers against the importation of contaminated foods or unknown potential threat materials.

Recently, the Chemical Sample Preparation Mobile Platform, the Microbiological Sample Preparation Mobile Platform, and the two vehicles that house the command centers departed the Aberdeen Proving Ground's Edgewood Area. With the departure of these first components of the system, the $3.5 million project is coming to fruition. Diane Bargo, Scientific Coordinator for the FDA's Office of Regulatory Affairs accepted the documentation for the Chemical Biological Mobile Laboratory System.

Diane Bargo, Scientific Coordinator, Food and Drug Administration's Office of Regulatory Affairs, presents Edgewood Chemical Biological Center with a Certificate of Appreciation.
(Courtesy photo)

While at Edgewood, Bargo presented the Mobile Labs and Kits Team with a large poster board Certificate of Appreciation from FDA leadership, which reads: "for outstanding teamwork and contributions to the development of the FDA Chemical and Biological Mobile Laboratory Units." (Edgewood Chemical Biological Center)

The U.S. Army and SAE Celebrate 100 years

Cyndi Lynch, Dr. David Gorsich, Scott Sadlon

The 2005 year marks the 100-year anniversary of the Society of Automotive Engineers. The Army, the Tank Automotive Research Development Center and its National Automotive Center have worked closely with SAE to enhance military vehicle excellence.

This collaboration with SAE and other companies located in the heart of the automotive engineering capitol of the world gives the Army a distinct advantage in providing the best military vehicle technologies possible. This is the ninth year that the NAC has exhibited at the SAE World Congress.

This year TARDEC and NAC showcased a number of vehicle technologies from past to present. Included was a Willy Jeep from World War II, an Armored HMMWV and unmanned robotic systems currently supporting Operation Iraqi Freedom.

TARDEC and NAC jointly hosted three display booths, which showcased the premier of the MP Hybrid; a modular, easily configurable light duty vehicle platform that can be tailored to meet homeland defense, military or commercial purposes. The MP Hybrid unveiling was the main attraction of a standing-room-only press conference in April. Speakers that day were Sen. Carl Levin (D-MI), Ted Robertson, president, SAE, Maj. Gen. Mike Lenaers, commander, Tank-automotive Command Life Cycle Management Command, Dr. Richard McClelland, director, TARDEC, Dennis Wend, executive director, National Automotive Center and Alan Niedzwiecki, president and chief executive officer, Quantum Technologies

Other VIPs in attendance throughout the week included Michigan Gov. Jennifer Granholm and Gen. Benjamin Griffin, commander, U.S. Army Materiel Command. Larry Wallach, a representative from Sen. Debbie A. Stabenow's office was also in attendance.

TARDEC and NAC hosted ten Soldiers from the 143rd and 16th Ordnance Battalions from Aberdeen Proving Ground, Md. Five of these Soldiers previously served in Iraq and Afghanistan and received a standing ovation.

The other display areas highlighted TARDEC's technology transfer efforts with Michigan automotive manufacturers and academia to enhance Soldier survivability, safety and mobility for near and long term. A new Daylight Standoff Warning Device that recently shipped to Iraq and Southwest Asia was used to demonstrate how Soldiers can warn motorists to slow down or stop at vehicle checkpoints from up to a mile away. Santos, a realistic Digital Human model with the ability to see, move, touch and grasp like a real human, provides engineers the opportunity to investigate attributes of weapon systems and vehicles without using the real product.

The safety booth showcased how TARDEC engineers are developing and applying physics-based simulations to evaluate vehicle reliability, safety and performance as proposed product improvements are made throughout a vehicle's life cycle. Specific developments in the booth include a Human Factors Mini-Motion Base Simulator, which studies the effects of vehicle motions on Soldiers, and a Family of Medium Tactical Vehicles (FMTV) Leaf Spring Prototype, which promises to reduce overall vehicle weight and improve fuel economy, and an engine mount study.

Dr. David Gorsich and Dennis Wend also organized and presented a special publication (SAE SP-1962) highlighting some of the technologies being worked on in ground vehicles under RDECOM and PM UA. These technologies are

covered in the 49 selected papers in the bound edition that is being shared by Gen. Griffin and Gov. Granholm in the picture above.

Also highlighted was a Cooperative Research and Development Agreement between TARDEC and Lightning Motor Sports to explore synergies between the auto racing industry and military vehicles. Through this CRADA, TARDEC is looking at ways to streamline and improve their simulation-based testing capabilities to assess the best technology available in low risk, low cost environment, thus increasing the safety, endurance, reliability and operational potential of future military vehicles.

ARL Senior scientist honored with the presidential award

Army Research Laboratory Public Affairs Office

Dr. Edward M. Schmidt, a senior scientist at the Army Research Laboratory, has been honored for exceptional long-term contributions to the government with a 2004 Presidential Rank Award for Meritorious Service.

The awards recognize career senior executive service and senior professional people who exemplify the highest level of integrity, leadership and personal conduct and who have demonstrated exceptional performance during an extended period of time.

The meritorious award is given for sustained accomplishment and is limited to 5 percent of the career senior executive service, defense intelligence senior executive service, or senior level scientific or professional government-wide population.

Schmidt received his award at a ceremony May 9 at the Pentagon at which Secretary of the Army Francis J. Harvey and Vice Chief of Staff of the Army Gen. Richard A. Cody presided.

According to his nomination summary, "…….Schmidt has a sustained record of exceptional scientific and leadership achievements for the US Army. His research contributions have made fundamental changes in how weapons system physics is understood. His leadership of programs critical to the army and the Nation directly led to fielding some of the world's best weapons. He has helped the soldier."

Schmidt has had a long and distinguished career spending 35 years as an Army researcher.

He holds a bachelor's degree in Aerospace Engineering and a master's degree and PhD in Astronautics, all from the Polytechnic Institute of Brooklyn, N.Y. He entered the Army in 1969 and served for two years in the rank of Captain at the Office of the Project Manager, Utility Tactical Transport Aircraft Systems, St. Louis, Mo.

After leaving the Army, Schmidt joined the Ballistic Research Laboratory (a predecessor of ARL) at Aberdeen Proving Ground, MD, as an aerospace engineer in 1971, served in a number of engineering research and management positions and currently works in ARL's Weapons and Materials Research Directorate where he has served as manager of the Army's Electric Armaments Program since 1996. During his career, Schmidt has made fundamental contributions to the understanding of a diverse range of ballistic problems. He has conducted research into projectile launch, flight, and terminal effectives. His work is widely recognized within the Army, nationally and internationally. Dr. Schmidt has lead advanced research into the next generation of anti-armor ballistics and in his current position advancing the breakthrough technology of the electromagnetic gun is credited with saving the technology as an Army program and lead to the expansion of the program. His successful leadership of the technical team has resulted in interest in electromagnetic gun programs by both the Navy and the Marine Corps.

Schmidt is the author of more than 100 publications and is an Associate Fellow in the American Institute of Aero and Astronautics. He is a life member of the National Defense Industrial Associations (check) and the Society of Sigma XI

(scientific honor society). He is also a member of Sigma Gamma Tau (aerospace engineering honor society) and Tau Beta Pi (Engineering honor society).

During his government career, Schmidt won Army Research and Development Achievement awards in 1978 and 1989: a Meritorious Civilian Service Award in 1985; the BRL Kent Award in 1989; a US Army Laboratory Command R&D Achievement Award in 1989; and Superior Civilian Service awards in 2001 and 2003. He was elected a BRL Fellow in 1982 and an ARL Fellow in 1999.

Schmidt resides in Forest Hill, MD, with his wife of 37 years, Martha. They have four children: Laura, Edward, Tamara and Daniel and two grandchildren, Tess and Connor.

ARL provides key technologies and analytical support as well as critical links between the scientific and military communities to help American soldiers in the battlefield. ARL has two major sites in Maryland, the Adelphi Laboratory Center, and Aberdeen Proving Ground. ARL also has facilities at White Sands Missile Range, NM, and shares facilities with NASA at two sites, NASA-Langley, Hampton, VA, and NASA-Glenn, Cleveland, OH. ARL's extramural basic research program is managed by its Army Research Office in Research Triangle Park, NC.

Dr. Gerardo J. Melendez enters into Senior Executive Service

By Desiree DiAngelo
Communications-Electronic Research Development and Engineering Center Public Affairs Office

Dr. Gerardo J. Melendez, director, Communications - Electronics Research, Development and Engineering Center's Command and Control Directorate, entered into the Senior Executive Service in April.

Dr. Gerry Melendez poses with his wife Dr. Elaine Torres-Melendez

"This is a great day for the overall organization, the Fort Monmouth community and the Army," remarked the ceremony's host, Brig. Gen. John R. Bartley, Deputy Program Manager of Future Combat Systems Unit of Action Program Integration.

After taking the SES oath, Melendez's wife, Dr. Elaine Torres-Melendez presented him with his Senior Executive Service pin while his sons, GJ and Juan Carlos uncased his SES flag.

In a letter published within the program, Brig. Gen. Roger A. Nadeau, the commander of the Research, Development and Engineering Command, wrote, "This distinction is a tribute to your superior performance and service to the U.S. Army. More importantly it is well deserved recognition of your potential for continued outstanding contributions in more challenging and rewarding positions."

In his new role, Melendez is responsible for the development and research of advanced battle command, portable and mobile power, environmental control, navigation systems and technology, and quick-reaction integration of those systems on military platforms.

Melendez previously served as the Deputy Project Manager for the Unit of Action Network System's Integration.

"I know you have a true passion for this mission. It is a passion in the best sense of the values of the U.S. Army," remarked Dr. Robin L. Keesee, Deputy to the Commander of U.S. Army Research, Development and Engineering Command.

Amidst Melendez's family and friends, colleagues gathered at the ceremony to show their appreciation for his continued civilian service.

"I am extremely proud of Dr. Melendez and enthusiastically support his vision and goals for CERDEC and RDECOM," remarked Pete Glikerdas, C2D's deputy director.

Melendez thanked his wife, children, family and colleagues for their constant support and mentoring throughout his career.

"Events such as these put me in at a juncture in my life. I am able to look back and say thank you as well as look forward. The future is an opportunity to reaffirm my commitments," said Melendez, who added that he promised to give his "uncompromised best."

A native of San Juan, Puerto Rico, Melendez received a bachelor's of science degree in biomedical engineering from Tulane University in 1980 and a masters of science degree in electrical engineering from Brown University in 1983.

Melendez began his career with the Army in 1983 as an electronics engineer for the U.S. Army Communications and Electronics Command. He conducted research in the area of digital signal processing for target identification and data fusion.

From 1984-1987 he participated in a post-master's program at Princeton University. In 1987 he was awarded a Department of the Army Fellowship that allowed him to initiate doctoral studies in electrical engineering at Drexel University, which he completed in 1993.

In 2002, Dr. Melendez received his most recent master's degree in strategic studies from the Army War College.

Among his many accolades, Melendez was awarded the CERDEC's Director Award for Technical Excellence in 1989 and the CECOM Leader of the Year Award in 1998. He has also served in various positions throughout the then- U.S. Army's Communications-Electronics Command's Research, Development and Engineering Center, such as chief of the Automatic Target Recognition Team for Product Manger Tactical Endurance Synthetic Aperture Radar, and as chief of the Intelligence and Information Warfare Directorate's Battle Space Identification Branch.

ECBC Helps Secure Seaports

The Edgewood Chemical Biological Center staff recently returned from the Middle East after conducting a site survey to assess what equipment is necessary to support the installation of the Port Warning and Reporting Network.

PortWARN was developed as part of the Contamination Avoidance at Seaports of Debarkation ACTD, which protects operations at strategic transportation facilities. A reduction in operational capability or closure of an important seaport in the event of an attack would degrade the United States' military capabilities. PortWARN provides commanders with chemical and biological defense technologies and procedures to protect against and immediately react to the consequences of a chemical, biological, or toxic industrial chemical attack or release at seaports.

The ECBC team traveled back to the Middle East in May 2005 to begin installing the communications backbone for this system. (Edgewood Chemical Biological Center)

CERDEC director hopes to increase dialogue between Army, Industry

By Daphne Hart
Communications-Electronic Research Development and Engineering Center Public Affairs Office

The Communications-Electronics Research, Development and Engineering Center's Acting Technical Director, Gary Martin, spoke a meeting of the Garden State Chapter of the Association of Old Crows, Clifton, N.J., as part of an effort to increase dialogue between government and industry.

Martin, the event's keynote speaker, told the group that CERDEC's biggest priority is supporting Soldiers in Operations Enduring and Iraqi Freedom.

"Mr. Martin's discussion of current real world operations in which RDECOM (the Research, Development and Engineering Command) and CERDEC are providing critical technology - especially in the areas of sensors, communications and force protection - was very beneficial," said Adam Bogner, the AOC chapter president and an engineer with the CERDEC's Intelligence and Information Warfare Directorate.

As part of his presentation, Martin gave his audience an overview of CERDEC's mission, organization and research priorities. He also discussed some of the challenges that CERDEC engineers are working to overcome and cited sensor fusion as an example.

"He instilled a sense of reality in how our efforts positively impact our warfighters overseas," Bogner added. "He provided the necessary motivation for engineers and scientists to develop new ideas and technologies to enable our Soldiers to succeed."

Oak Ridge National Laboratory to host 3rd Annual Workshop

Oak Ridge National Laboratory will host the 3rd Annual Detector/Sensor Research and Technology for Homeland and National Security Workshop September 11 - 14, at the Knoxville Convention Center in Knoxville, Tenn.

The overlying theme of this year's workshop will be "Technology Solutions for National Vulnerabilities … from Cyberspace to the Genome … Solutions to BioDetection"

The workshop will be organized around the four major components of all detection systems - sampling, sample preparation, analysis and identification. Abstracts are solicited in each of these areas. Presentations on genomics and proteomics and their potential for a next generation detection systems, particularly when coupled with computational advances, are welcomed. Particularly important is advancing research on identifiers of viability - live or dead - and identifiers of genetic alteration. Overlaying this will be a discussion on bioethics and in particular a discussion on a potential Code of Ethics for the life sciences.

The workshop will feature a panel discussion, plenary lectures by experts as well as invited and contributed talks. Space will be available for poster presentations and equipment exhibits. Scientists, program managers, and policy makers from national laboratories, government and private agencies, academia, and instrument manufacturers that are interested in technological solutions to homeland security and national defense issues should plan to attend.

Registration, submission of abstracts for invited and contributed presentations, as well as reservation of space for exhibits, can be done on-line at: http://www.ornl.gov/sci/homeland_sec_workshop/ or call (865) 574-3053.

National Automotive unveils HMMWV-like hybrid, field testing begins soon

The U.S. Army, known for the 11 mpg HMMWV utility vehicle and the M1 tank, which needs two gallons to go a mile, recently unveiled a 50 miles per gallon hybrid utility vehicle that can replace the HMMWV on many assignments.

The hybrid HMMWV was developed to save money on fuel and to fill a gap caused by redeployment of regular HMMWVs from U.S. bases to overseas assignments.

"The Army uses a lot of fuel," said Germaine Fuller from AMC's National Automotive Center. The NAC is, a research and development department charged with creating vehicles and technologies for joint military/civilian use. "If we can find a way to save on that, it's highly needed."

The Army developed the hybrid chassis, which contains the 18-hp diesel engine, two 10-hp electric engines and three batteries, to support interchangeable body types. The body types include: passenger, pick-up, armored, and one for remote control vehicles. Its diesel engine is also removable, acting as a generator, and its mechanics are more accessible and easier to work on than those of existing hybrids.

The hybrid is also cheaper than a HMMWV, with a price tag of around $20,000 versus $65,000 for its larger cousin. The mp hybrid will be field tested for further evaluation by the Army.

DoD mentor program provides incentives, competitiveness

The DoD Mentor Protégé Program provides incentives to prime contractors to develop technical and business capabilities of eligible small business protégés to increase their competitiveness and participation in both prime contracts and subcontracts.

Eligible protégés include certified small disadvantaged businesses, qualified organizations employing the severely disabled, women-owned small businesses and most recently, service-disabled, veteran-owned small businesses, and qualified historically underutilized business zone entities.

The Army's goal is to engage industry and help shape and expand the industrial base to support our Soldier's via mentor program agreements with strong technical components and a focus on innovative, state-of-the-art technology transfer.

AMC obligates over 66 percent of the Army's U.S. business contract obligations, and sponsors just 35 percent of active Army mentor program agreements. There is currently only one manufacturing agreement.

Increased AMC sponsored agreements focused on transferring manufacturing technologies is a catalyst for developing critical capabilities and enhances effectiveness in the U.S. small business manufacturing base.

AFSB- Luxembourg's service partner earns ISO certification

Warehouses Service Agency, Army Field Support Battalion, Luxembourg's service partner, recently received the prestigious International Standardization Organization certifications for Quality Management and Environmental Management Systems.

"WSA was set up by the Luxembourg Government as part of a nation-to-nation agreement with the United States. Our sole, non-profit, mission is to provide services to American armed forces," said Norbert Giampellegrini, WSA deputy general manager. "We decided to go after ISO certification. We turned to the Luxembourg government for financial support …the government agreed to underwrite the initial certification costs, at no expense to the U.S.A."

By earning ISO certifications, WSA has become the first of Army Field Support Brigade – Europe's elements to achieve internationally recognized standards. "This is an important milestone and we aim to achieve the same result throughout the brigade," said Col. Max Lobeto, brigade commander. "The benefits to taxpayers and the Army are clear: efficient and effective delivery of combat-ready equipment to Soldiers who are counting on us."

Change to Medal Requests for Veterans Discharged or Retired after Oct. 1, 2002

Veterans requesting medals who were separated, discharged or retired after Oct. 1, 2002, should submit their request to the U.S. Army Human Resources Command in St. Louis (HRC-STL), not the National Personnel Records Center.

This notice applies to all electronic official military personnel files for active Army and Reserve component officers and enlisted members, and National Guard officers, but excludes the National Guard enlisted and Reserve member files, which are in paper format.

The U.S. Army Human Resources Command formally activated on Oct. 2, 2003, combining the U.S. Total Army Personnel Command and the U.S. Army Reserve Personnel Command.

Since Oct. 1, 2002, all official military personnel files for active Army and Reserve component officers and enlisted members, and National Guard officers have been electronically stored at HRC-STL, and requests for any information pertaining to these records should be directed to HRC-STL.

The address is: U.S. Army Human Resources Command - St. Louis; Attn: AHRC-CC-B; 1 Reserve Way; St. Louis, Missouri; 63132-5200. The customer service number at HRC-STL is 314-592-0123 or toll-free 1-800-318-5298. Their Web site is: https://www.hrc.army.mil .

Additional information on medals for Army veterans can be found at: https://veteranmedals.armymil.

Recognizing the many who serve

Civilians and service members alike celebrate Public Service Recognition Week on the National Mall in Washington, D.C. May 5-8. PSRW is set aside to recognize government employees at all levels. This year marked the event's twentieth anniversary with more than 100 government agencies setting up displays. Marketing materials for PSRW number attendance in the tens of thousands.